ABSTRACT

LASER SOURCE WITH HIGH RELATIVE FEEDBACK AND METHOD FOR MAKING SUCH A LASER SOURCE

The invention relates to the stabilization of high power semiconductor laser diode sources as they are extensively used in the field of optical communication. Such lasers are mostly employed as so-called pump laser sources for fiber amplifiers, e.g. erbium-doped fiber amplifiers, and are designed to provide a narrow-bandwidth optical radiation with a stable power output in a given frequency band. To improve the wavelength locking range of such laser sources when operating without an active temperature stabilizing element, an external reflector providing very high relative feedback is used. The reflectivity bandwidth of the external reflector is broadened for improving the stability of the laser source. In commonly employed optical fibers for conducting the laser beam, the external reflector is formed by one or a plurality of appropriately designed fiber Bragg gratings.

(Fig. 1)